

AMENDMENTS TO CLAIMS

Please amend the claims as follows:

1. **(previously presented)** A program storage device readable by a computer embodying in a tangible medium one or more programs of instructions executable by the computer to perform a method for dynamically expanding mirrored virtual disks in a virtual disk storage system, the method comprising:
 - receiving by a source virtual disk a request to dynamically expand the mirrored virtual disks, which include the source virtual disk and at least one destination virtual disk;
 - associating additional storage with the mirrored virtual disks;
 - increasing respective sizes of each of the at least one destination virtual disk before reporting a new storage size of the source virtual disk;
 - and
 - reporting the new size of the source virtual disk.
2. **(previously presented)** The program storage device of claim 1 wherein the step of associating additional storage further comprises:
 - creating an amount of storage by providing RAID's on each subsystem that is associated with each component of a mirror set;
 - assigning the RAID's to a specific virtual disk for a mirror device; and
 - specifying a size for the virtual disk and mapping the size of the virtual disk directly to all components of the mirror set.

3. **(original)** The program storage device of claim 2 wherein the specifying a size for the virtual disk and mapping the size of the virtual disk is performed by an operating system.
4. **(currently amended)** A program storage device readable by a computer embodying in a tangible medium one or more programs of instructions executable by the computer to perform a method for dynamically resizing mirrored virtual disks in a RAID storage system, the method comprising:
 - receiving a request to dynamically shrink mirrored virtual disks in the RAID storage system, which include the source virtual disk and at least one destination virtual disk;
 - changing the reported size of the virtual disks and making the virtual disks available for operation; and
 - after making the virtual disks available for operation, manipulating RAIDs in the RAID storage system assigned to the mirrored virtual disks prior to resizing the mirrored virtual disks, wherein the step of manipulating further comprises
 - specifying a size of a virtual disk and mapping the size of the virtual disk directly to all components of a mirror set,
 - detaching any RAIDs that extend beyond the specified size of the virtual disk, and
 - truncating RAIDs to free up any excess physical segments back into the RAID storage system;
 - ~~resizing the at least one destination virtual disk before reporting a new storage size of the source virtual disk; and~~

~~providing the resized mirrored virtual disks for operation.~~

5. **(original)** The program storage device of claim 4 wherein the specifying a size for the virtual disk and mapping the size of the virtual disk is performed by an operating system.
6. **(canceled)**
7. **(previously presented)** A program storage device readable by a computer embodying in a tangible medium one or more programs of instructions executable by the computer to perform a method for dynamically shrinking mirrored virtual disks in a RAID storage system, the method comprising:
 - specifying a size of a virtual disk and mapping the size of the virtual disk directly to all components of a mirror set;
 - detaching any RAID's that extend beyond the specified size of the virtual disk; and
 - truncating RAID's to free up any excess physical segments back into the RAID storage system.
8. **(canceled)**
9. **(previously presented)** The apparatus of claim 23, wherein creating an amount of necessary storage includes providing RAID's on each subsystem that is associated with each component of a mirror set, attaching the RAID's to a specific virtual disk for a mirror device and specifying a size for the virtual disk and mapping the size of the virtual disk directly to all components of the mirror set.

10. **(currently amended)** An apparatus for dynamically resizing mirrored virtual disks in a RAID storage system, comprising:

a storage system interface for providing access to a storage system;

host side interface for communicating with host devices; and

a processor, coupled to the host side interface and the storage system

interface, the processor being configured for receiving a request to

~~dynamically~~ resize mirrored virtual disks in a RAID storage system

to a new size, changing reported size of the mirrored virtual

disks to the new size, providing resized mirrored virtual disks

for operation, manipulating RAID's in the RAID storage system

assigned to the mirrored virtual disks, ~~disks prior to resizing the~~

~~mirrored virtual disks, resizing the mirrored virtual disks,~~

~~specifying a size of a virtual disk and~~ mapping the size of the

virtual disk directly to all components of a mirror set, detaching

any RAID's that extend beyond the specified size of the virtual

disk, and truncating RAID's to free up any excess physical

segments back into the RAID storage system, ~~and providing the~~

~~resized mirrored virtual disks for operation.~~

11. **(canceled)**

12. **(canceled)**

13. **(currently amended)** A storage area network, comprising:

a plurality of hosts;

at least one access device, coupled to the plurality of hosts, for managing data input/output operations; and

a storage platform, for providing networked storage to the at least one access device, the storage platform including a management device for dynamically resizing mirrored virtual disks in a RAID storage system, the management device further comprising:

a storage system interface for providing access to a storage system; host side interface for communicating with host devices; and

a processor, coupled to the host side interface and the storage system interface, the processor being configured for receiving a request to ~~dynamically~~ resize mirrored virtual disks in a RAID storage system to a new size, changing reported size of the mirrored virtual disks to the new size, providing resized mirrored virtual disks for operation, manipulating RAID's in the RAID storage system assigned to the mirrored virtual disks ~~prior to resizing the mirrored virtual disks, resizing the mirrored virtual disks, providing the resized mirrored virtual disks for operation, specifying a size of a virtual disk and~~ mapping the size of the virtual disk directly to all components of a mirror set, detaching any RAID's that extend beyond the specified size of the virtual disk and truncating RAID's to free up any excess physical segments back into the RAID storage system.

14. (canceled)

15. (canceled)

16. **(currently amended)** An apparatus for dynamically resizing mirrored virtual disks in a RAID storage system, comprising:
- first means for providing an interface to a storage system;
 - second means for providing communication with host devices; and
 - means, coupled to the host side interface and the storage system interface, for receiving a request to dynamically resize mirrored virtual disks in a RAID storage system, manipulating RAIDs in the RAID storage system assigned to the mirrored virtual disks ~~prior to resizing the mirrored virtual disks~~, wherein the means for manipulating further comprises means for specifying a size of a virtual disk and mapping the size of the virtual disk directly to all components of a mirror set, detaching any RAIDs that extend beyond the specified size of the virtual disk and truncating RAIDs to free up any excess physical segments back into the RAID storage system, and before the step of manipulating RAIDs, resizing the mirrored virtual disks, and providing the resized mirrored virtual disks for operation.
17. **(currently amended)** The program storage device of claim 1, the method further comprising:
- providing by the source virtual disk continuous availability for normal disk access operations between the step of receiving a request and

the step of reporting the new ~~storage~~ size of the source virtual disk.

18. **(currently amended)** The program storage device of claim 17, the method further comprising:
 - providing by the ~~set of~~ at least one destination virtual disk[[s]]
 - continuous mirroring of the source virtual disk between the step of receiving a request and the step of reporting the new ~~storage~~ size of the source virtual disk.
19. **(previously presented)** The program storage device of claim 1, wherein a first of the mirrored virtual disks has a different virtualization configuration from a second of the mirrored virtual disks.
20. **(previously presented)** A method, comprising:
 - receiving a request to dynamically resize mirrored virtual disks, the mirrored virtual disks comprising a source virtual disk and a set of destination virtual disks that includes at least one destination virtual disk;
 - associating additional storage with the mirrored virtual disks;
 - increasing respective new storage sizes of each destination virtual disk
 - before reporting a new storage size of the source virtual disk; and
 - reporting the new storage size of the source virtual disk.
21. **(previously presented)** The method of claim 20, wherein the request is received by the source virtual disk.

22. **(previously presented)** The method of claim 21, wherein, in the step of receiving, the request is received electronically from a host and, in the step of reporting the new storage size of the source virtual disk, the new storage size of the source virtual disk is reported to the host.
23. **(previously presented)** An apparatus, comprising:
- a set of mirrored virtual disks, including a source virtual disk and at least one destination virtual disk, the at least one destination virtual disk mirroring the source virtual disk, wherein the source and destination virtual disks have the same size;
 - a management module that includes
 - a host side interface adapted to communicating with host devices, through which the management module is adapted by logic to report the size of the mirrored virtual disks and to receive a request to expand the mirrored virtual disks, and
 - a storage system interface for communicating with the virtual disks that is adapted to requesting the source virtual disk to expand and to obtain reports of the size of the virtual disks from the source virtual disk; and
 - logic adapted to
 - provide reports of the size of the source virtual disk to the management module through the storage system interface,
 - satisfy an expansion request by creating an amount of necessary storage before changing the size that will be obtained by the

management module in reports from the source virtual disk;

and

change the size that will be obtained by the management module
in reports from the source virtual disk.

24. **(previously presented)** The apparatus of claim 23, further comprising:
a host device adapted to send a request to the management module to
expand the mirrored virtual disks.